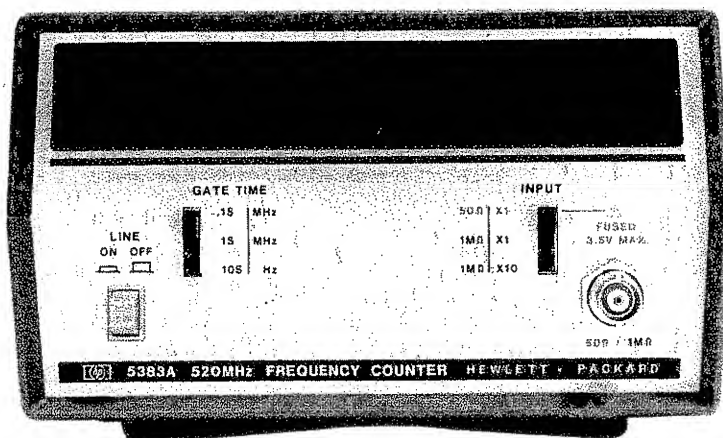


# FREQUENCY COUNTER

## 5383A



HEWLETT  PACKARD



# **FREQUENCY COUNTER**

## **5383A**

### **OPERATING                      MANUAL**

#### **SERIAL PREFIX: 1628A**

This manual applies directly to HP Model 5383A Frequency Counters having serial number prefix 1628A.

#### **NEWER INSTRUMENTS**

This manual, with enclosed "Manual Changes" sheet, applies to HP Model 5383A Frequency Counters having serial number prefixes as listed on the "Manual Changes" sheet.

#### **OLDER INSTRUMENTS**

For serial prefixes below the serial prefix shown above, refer to Section VII for manual backdating instructions.

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## SECTION I GENERAL INFORMATION

### 1-1. INTRODUCTION

1-2. This section of the manual gives a description of the instrument, information on instrument identification and available options, and complete specifications.

### 1-3. INSTRUMENT DESCRIPTION

1-4. The HP Model 5383A (see Figure 1-1) is a direct-counting frequency counter that has a range of 10 Hz to 520 MHz. Nine display digits provide a resolution of one Hz per second for inputs up to 520 MHz. Front panel controls allow a selection of gate times, input impedances, and attenuators. A rear panel connector and associated selector switch allow either an external time base oscillator input, or monitoring of the internal time base oscillator. When the optional temperature compensated crystal oscillator (TCXO) is installed, the rear panel connector serves only as a time base monitor. In addition, a rear panel power selector switch permits the 5383A Counter to operate with line voltages ranging from 90V to 252V (line frequency range: 48 to 440 Hz).

### 1-5. ACCESSORIES AND OPTIONS

1-6. Two accessories are available for mounting the 5383A counter onto the user's rack. The 10851A kit permits the mounting of a single counter, while the 10852A kit is used for mounting two counters in a side-by-side configuration. Refer to Section II for detailed rack mounting kit information.

1-7. Option 001 provides a more accurate and stable time base oscillator. This Temperature Compensated Crystal Oscillator (TCXO) installation modifies the rear panel so that the connector is used only as a MONITOR output. As a result, an external standard (i.e., time base) cannot be applied to the Option 001 counter.

### 1-8. INSTRUMENT IDENTIFICATION

1-9. Hewlett-Packard uses a 2-section, 10-character serial number (0000A00000) mounted on the rear panel to identify the instrument. The first four digits are the serial prefix and the last five digits refer to the specific instrument. The alphabetical character identifies the country of manufacture. If the serial prefix on your instrument differs from that listed on the title page of this manual, there are differences between the manual and your instrument. Any lower serial prefixes are documented separately in this manual, and higher serial prefixes are covered by a manual change sheet included with the manual.

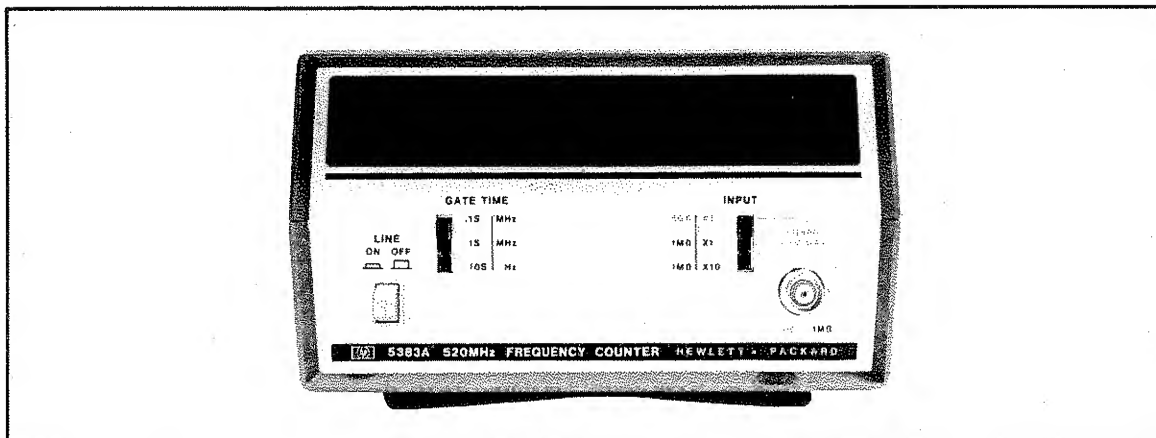


Figure 1-1. Model 5383A Frequency Counter



1-10. The printed circuit boards within the instrument are identified by a 2-section, 10-digit part number (e.g., 05383-60001) and a 4-digit series number (e.g., "SERIES 1508"). The series number identifies the electrical characteristics of the complete printed-circuit assembly. A replacement circuit-board assembly may have a different series number than the assembly originally supplied with the instrument. Therefore, when troubleshooting a circuit-board assembly, ensure that the series number on the schematic diagram matches the series number on the board assembly. If the series number of the assembly is lower than the number on the schematic diagram in Section VIII, refer to backdating information in this manual for change information. If the series number on the assembly is higher than the number on the schematic diagram, the change information is provided in a manual change sheet which is available from the nearest Hewlett-Packard Sales and Service Office.

#### 1-11. MICROFICHE NUMBER

1-12. On the title page of this manual, below the manual part number, is the microfiche part number. This number may be used to order 4 x 6 transparencies of the manual. The microfiche package also includes the latest Manual Change Supplements as well as all pertinent Service Notes.

#### 1-13. RECOMMENDED TEST EQUIPMENT

1-14. Table 1-1 lists test equipment which is recommended for confirming instrument specifications (i.e., in-cabinet performance tests), as well as troubleshooting and adjusting the instrument.

Table 1-1. Recommended Test Equipment

Equipment Type	Required Characteristics	Suggested Model	Use*
Oscilloscope	50 MHz Bandwidth	HP 180A System	A,T
Test Oscillator	10 Hz to 10 MHz 25 mV Output	HP 651B	P,T
Signal Generator	10 MHz to 520 MHz 25 mV Output	HP 8654A	P,T
DVM	0—25V Range	HP 970A	T
Frequency Counter	High stability 10 MHz frequency standard	HP 5328A with Option 10 or HP 5345A	A,P
50 Ohm Feedthru Connector	50 Ohm Termination	HP 11048C	P,T
*A = Adjustments, P = Performance Test, T = Troubleshooting			

#### 1-15. SPECIFICATIONS

1-16. Table 1-2 lists the 5383A specifications.























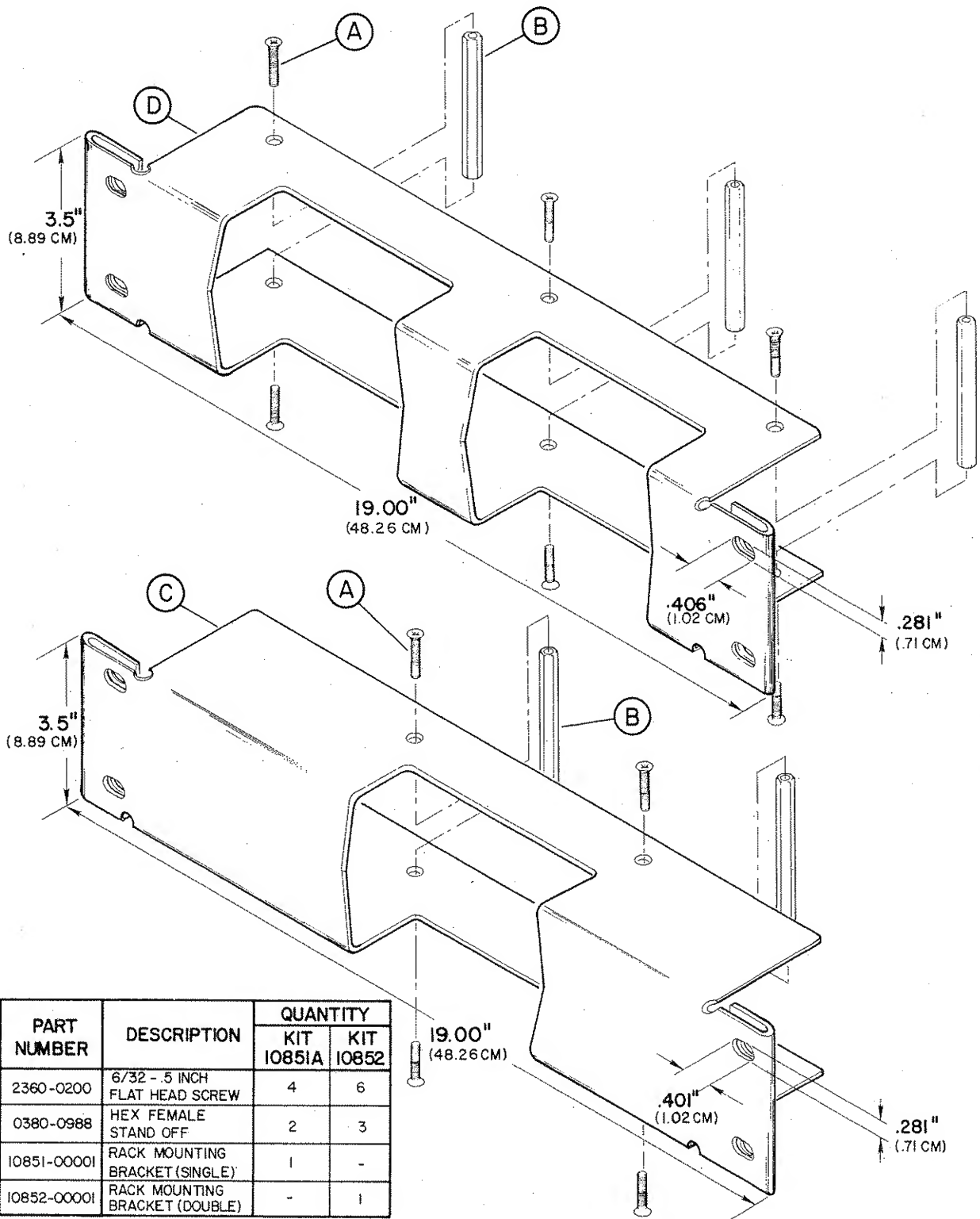


Figure 2-3. Rack Mounting Kit

























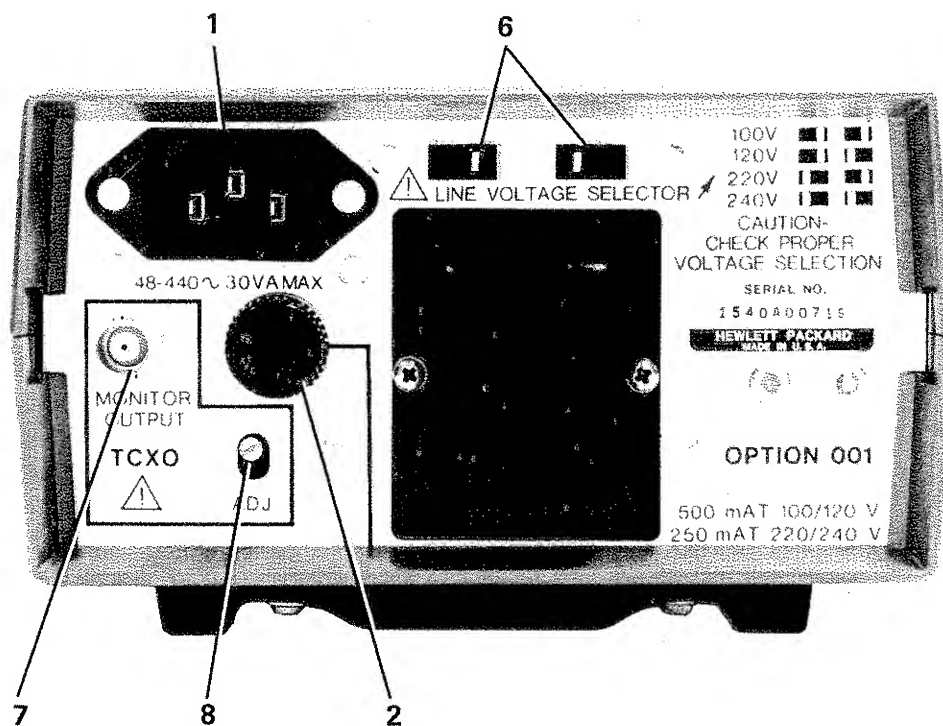












OPTION 001 REAR PANEL

5. **OSCILLATOR-ADJ control:** The ADJ control is used to set the frequency of the internal time base oscillator. Refer to the *Adjustment* Paragraphs 5-10 or 5-13, in Section V for information.
6. **LINE VOLTAGE SELECTOR switches:** Set the switches to correspond with the voltage of the ac power source. (Refer to Paragraph 2-8 for instructions.)
7. **MONITOR OUTPUT connector:** Serves as an internal time base oscillator monitor output connector only (see NOTE under item 3) for Option 001.
8. **TCXO ADJ control:** Same as 5, above. Refer to Paragraph 5-13, in Section V for information on Option 011 time base adjustment.

Figure 3-2b. Rear Panel Operating Controls and Indicators (Continued)

